

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for controlling a screening machine comprising at least one screen surface, feeding means comprising a conveyor that feed-feeds material to be screened towards the screen surface and onto the screen surface where the material is separated into a first fraction remaining on the screen surface and into a second fraction passed through the screen surface while the material is moving along the screen surface, the method comprising:

determining the amount of material on the screen surface by automatic ~~measurement;~~ measurement; and

controlling the feeding speed of the ~~feeding means-conveyor~~ on the basis of the measurement by automatic control in such a manner that the feeding speed, which is above zero, is changed to a different feeding speed, which is above zero, in one of the following ways:

a) providing upper and lower preset values ( $val_{max}$ ,  $val_{min}$ ) for the measurement value ( $val_m$ ) of a variable dependent on the amount of material on the screen surface,

lowering the speed of the ~~feeding means-conveyor~~ without stopping the ~~feeding means-conveyor~~ when the measurement value ( $val_m$ ) passes one of the preset values, and

increasing the speed of the ~~feeding means-conveyor~~ when the measurement value ( $val_m$ ) passes the other preset value, or

b) providing a preset value  $((\Delta val_m / \Delta t)_{max})$  for a speed of change of the measurement value ( $val_m$ ) of the variable dependent on the amount of material on the screen surface, and

changing the speed of the ~~feeding means~~ conveyor without stopping the ~~feeding means~~ conveyor when the speed of change of the measurement value ( $val_m$ ) of the variable exceeds the preset value  $((\Delta val_m / \Delta t)_{max})$ .

2. (Previously Presented) The method according to claim 1, wherein determining the amount of material on the screen surface comprises

measuring a variable of the movement of the screen surface or a variable of the drive means of the screen surface causing the movement of the screen surface.

3. (Previously Presented) The method according to claim 1, wherein determining the amount of material on the screen surface comprises

measuring the load caused by the material on any processing unit of the screening machine or on any machine following the screening machine and extending the process of the screening machine and being connected to the control system of the screening machine.

4. (Previously Presented) The method according to claim 2, wherein measuring the load caused by the material on the screen comprises

measuring a variable of the screen drive means causing the transport or processing of the material on the screen surface.

5. (Previously Presented) The method according to claim 4, wherein the variable is a drive pressure, drive current or drive running speed.

6. (Previously Presented) The method according to claim 3, wherein the processing unit is any of the following: a discharge conveyor, a shredder, or a crusher.

7. (Previously Presented) The method according to claim 6, wherein measuring the load comprises measuring any of the following variables:

drive pressure of the discharge conveyor, shredder or crusher,

drive current of the discharge conveyor, shredder or crusher, or

running speed of the discharge conveyor, shredder or crusher.

8. (Previously Presented) The method according to claim 3, wherein the machine following the screening machine and extending the process of the screening machine and being connected to the screening machine's control system is any of the following:

- a second screening machine,
- a crushing machine, or
- a conveying machine.

9. (Previously Presented) The method according to claim 3, wherein measuring the load comprises measuring the load on an engine caused by the material.

10. (Previously Presented) The method according to claim 3, wherein measuring the load comprises measuring the temperature of a hydraulic fluid of a hydraulic system.

11. (Currently Amended) The method according to claim 1, further comprising presetting a maximum speed and a minimum speed for the ~~feeding means~~ conveyor.

12. (Currently Amended) The method according to claim 1, further comprising: providing a predetermined maximum time ( $t_{\max}$ ) for the measurement value ( $val_m$ ) to be beyond the preset value; and

lowering the speed of the ~~feeding means~~ conveyor below a preset speed value when the measurement value ( $val_m$ ) has been beyond the preset value for a period that exceeds the predetermined maximum time ( $t_{\max}$ ).

13. (Currently Amended) The method according to claim 12, further comprising stopping the ~~feeding means~~ conveyor when the measurement value ( $val_m$ ) has been beyond the preset value for the period.

14. (Currently Amended) A screening machine comprising at least one screen surface, feeding means comprising a conveyor arranged to feed material to be screened towards the screen surface and onto the screen surface, the screen surface being capable of separating the material into a first fraction remaining on the screen surface and into a second

fraction passed through the screen surface while the material is moving along the screen surface, the screening machine further comprising:

a sensor arranged to measure a variable dependent on the amount of material on the screen surface;

a controller to which said sensor is connected through a data transmission line to receive a measurement value ( $val_m$ ) related to said variable from the sensor; and

an actuator operatively connected to the ~~feeding means~~ conveyor and arranged to change the feeding speed of the ~~feeding means~~ conveyor, wherein

said controller is connected to said actuator through a data transmission line and arranged to give a control command to said actuator in response to the measurement value ( $val_m$ ) received from the sensor to change the feeding speed, which is above zero, to a different feeding speed, which is above zero, in one of the following ways:

a) an upper preset value ( $val_{max}$ ) and a lower preset value ( $val_{min}$ ) for the measurement value ( $val_m$ ) are programmable and changeable in the controller and the controller is arranged to give a speed reducing control command, which does not stop the ~~feeding means~~ conveyor, to the ~~feeding means~~ conveyor when the measurement value ( $val_m$ ) passes one of the preset values ( $val_{max}$ ,  $val_{min}$ ), and a speed increasing control command when the measurement value passes the other preset value, or

b) a preset value  $((\Delta val_m / \Delta t)_{max})$  for the speed of change of the measurement value ( $val_m$ ) is programmable and changeable in the controller and the controller is arranged to give a speed changing control command, which does not stop the ~~feeding means~~ conveyor, to the ~~feeding means~~ conveyor when the speed of change exceeds the preset value  $((\Delta val_m / \Delta t)_{max})$ .